

Apparent Paucity of the Leonid Stream.

By the Rev. S. J. Johnson.

The morning of November 14 was densely clouded ; that of the 15th clear and frosty, giving opportunity for observation, especially as the Moon was absent. A little watching soon showed that the shower, though existing, was very feeble at the time and far inferior to that of the *Perseids* last August. It was about equal in intensity to that which I witnessed on the morning of 1896 November 14. From 2^h to 2^h 45^m (morn.) on the 15th I observed three *Leonids*, the largest being at 2^h 42¹/₂^m, about 10° beneath *Regulus* ; also one non-*Leonid* across η .

From 4^h to 5^h (morn.) five *Leonids*, two of which equal bright first magnitude stars, one at 4^h 7^m, just beneath 46 *Leon. Min.*, greenish. From about 161° + 34° to 163° + 36°; the other at 4^h 24^m, started about 3° left of *Arcturus*. From 215° + 21° to 220° + 18°.

On the morning of the 16th the radiant was slightly more active. Still, the Earth could only have been passing through outlying portions of the shower. From 4^h 55^m to 6^h A.M. I noticed nine *Leonids*, all within the first thirty-five minutes.

At 4^h 55³/₄^m (morn.) nearly equal *Jupiter*, green train. Just beneath β *Leonis*. 173° + 16° to 180° + 13°.

At 5^h 1¹/₄^m magnitude 1 train. From a point 7° above δ *Leonis* going towards 12 *Coma Beren.* 168° + 27° to 180° + 28°.

At 5^h 23³/₄^m equal *Jupiter*. Between ϵ *Virginis* and *Arcturus*. 197° + 21° to 207° + 11°.

All the *Leonids* seen had momentary trains.

Place of observation, window facing eastern heavens with several obstructions.

Melplash Vicarage, Bridport :
Nov. 30.

The Leonids, 1901. By F. W. Henkel, B.A.

The weather having been better on the whole than is usual at this time of the year at Markree, there was an opportunity of observing any display of meteors should it occur, but nothing of any consequence was seen here on the nights of November 15 and 16, which were clear for the most part. Being myself in England at the time, in the neighbourhood of Epping Forest, I made a watch from about 11 P.M. till towards daylight on the night of the 15th-16th, but saw nothing worthy of remark. The following night (Saturday) there was a dense fog, which prevented anything being seen of the sky at all. A gentleman whose occupation involves his being in London most part of the night, and who

watched from the neighbourhood of Dalston, told me that he saw no meteors at all.

It is evident from the reports to hand that there has not been any display this year of any consequence, though a few observers have been able to see a small number of meteors. It seems fairly certain that we are not likely to witness in this decade anything at all approaching the wonderful displays of 1833 and 1866, which have caused such an interest to attach itself to this swarm, but perhaps those of us who survive for another thirty years may be more fortunate.

Markree Observatory : 1901 December 10.